

37. The photoresist of claim 33 wherein the resin comprises phenolic groups.
38. The photoresist of claim 33 wherein the resin comprises phenolic and alkyl acrylate groups.
39. The photoresist of claim 33 wherein the resin is at least essentially free of aromatic groups.
40. The photoresist of claim 33 wherein the resin comprises polymerized units of cyclic olefin groups and/or anhydride groups.
41. The photoresist of claim 33 wherein the resin is fluoro-substituted.
42. The photoresist of claim 33 further comprising a basic component.
43. The photoresist of claim 42 wherein the basic component is an amine.
44. The photoresist of claim 33 wherein the photoresist comprises a solvent that contains an ester moiety.
45. The photoresist of claim 33 wherein the photoresist contains a solvent component that comprises ethyl lactate.
46. The photoresist of claim 45 wherein the acid is lactic acid.
47. The photoresist of claim 33 wherein the photoresist contains a solvent component that comprises propylene glycol methyl ether acetate.

48. The photoresist of claim 47 wherein the acid is acetic acid.
49. A method of forming a photoresist relief image comprising:
- (a) applying a coating layer of a chemically-amplified positive photoresist composition on a wafer substrate, the photoresist composition comprising 1) a resin, 2) a photoacid generator compound, and 3) lactic acid or acetic acid;
- (b) exposing the photoresist coating layer to patterned activating radiation and developing the exposed photoresist layer to provide a relief image.
50. The method of claim 49 wherein the substrate is a microelectronic wafer substrate.
51. The method of claim 49 wherein the lactic acid or acetic acid is present in an amount of at least about 0.5 weight percent based on total solids of the photoresist composition.
52. The method of claim 49 wherein the lactic acid or acetic acid is present in an amount of at least about 0.8 weight percent based on total solids of the photoresist composition.
53. The method of claim 49 wherein the lactic acid or acetic acid is present in an amount of at least about 1 weight percent based on total solids of the photoresist composition.
54. The method of claim 49 wherein the photoresist coating layer is exposed to radiation having a wavelength of less than about 300 nm.
55. The method of claim 49 wherein the photoresist coating layer is exposed to radiation having a wavelength of less than about 200 nm.
56. The method of claim 49 wherein the resin comprises phenolic groups.

57. The method of claim 49 wherein the resin comprises phenolic and alkyl acrylate groups.

58. The method of claim 49 wherein the resin is at least essentially free of aromatic groups.

59. The method of claim 49 wherein the resin comprises polymerized units of cyclic olefin groups or anhydride groups.

60. The method of claim 49 wherein the resin is fluoro-substituted.

61. The method of claim 49 further comprising a basic component.

62. The method of claim 61 wherein the basic component is an amine.

63. The method of claim 49 wherein the photoresist comprises a solvent that contains an ester moiety.

64. The method of claim 49 wherein the photoresist contains a solvent component that comprises ethyl lactate.

65. The method of claim 64 wherein the acid is lactic acid.

66. The method of claim 49 wherein the photoresist contains a solvent component that comprises propylene glycol methyl ether acetate.

67. The method of claim 66 wherein the acid is acetic acid.

68. An article of manufacture comprising a microelectronic wafer substrate having on at least one surface a coating layer of the photoresist composition that comprises 1) a resin, 2) a photoacid generator compound, and 3) lactic acid or acetic acid.

69. The article of claim 68 wherein the lactic acid or acetic acid is present in an amount of at least about 0.5 weight percent based on total solids of the photoresist composition.

70. The article of claim 68 wherein the lactic acid or acetic acid is present in an amount of at least about 0.8 weight percent based on total solids of the photoresist composition.

71. The article of claim 68 wherein the lactic acid or acetic acid is present in an amount of at least about 1 weight percent based on total solids of the photoresist composition.

73. The article of claim 68 wherein the resin comprises phenolic groups.

74. The article of claim 68 wherein the resin comprises phenolic and alkyl acrylate groups.

75. The article of claim 68 wherein the resin is at least essentially free of aromatic groups.

76. The article of claim 68 wherein the resin comprises polymerized units of cyclic olefin groups or anhydride groups.

77. The article of claim 68 wherein the resin is fluoro-substituted.